

CLAIMS

1. A unit comprising:

an array of lasers having an emission surface through which beams can be emitted in a substantially vertical direction so as to define an emission side;

drive electronics connected to a side opposite to the emission side of the array of lasers;

and

an array of modulators, located on the emission side of the array of lasers and connected to the drive electronics.
2. The unit of claim 1 wherein the array of lasers is an array of vertical cavity surface emitting lasers (VCSELs).
3. The unit of claim 2 wherein the VCSELs are top emitting VCSELs.
4. The unit of claim 2 wherein the VCSELs are bottom emitting VCSELs.
5. The unit of claim 1 wherein the array of lasers is an array of distributed feedback (DFB) lasers.
6. The unit of claim 5 wherein the DFB lasers further comprise elements that cause the DFB lasers to emit perpendicular to a wafer plane of the DFB lasers.

7. The unit of claim 6 wherein the elements are gratings that cause the DFB lasers to top emit.
8. The unit of claim 6 wherein the elements are gratings that cause the DFB lasers to bottom emit.
9. The unit of claim 6 wherein the elements are micromirrors that cause the DFB lasers to top emit.
10. The unit of claim 6 wherein the elements are micromirrors that cause the DFB lasers to bottom emit.
11. The unit of claim 1 wherein the array of lasers is an array of distributed Bragg reflector (DBR) lasers.
12. The unit of claim 11 wherein the DBR lasers further comprise elements that cause the DFB lasers to emit perpendicular to a wafer plane of the DBR lasers.
13. The unit of claim 12 wherein the elements are gratings that cause the DBR lasers to top emit.
14. The unit of claim 12 wherein the elements are gratings that cause the DBR lasers to bottom emit.

15. The unit of claim 12 wherein the elements are micromirrors that cause the DBR lasers to top emit.

16. The unit of claim 12 wherein the elements are micromirrors that cause the DBR lasers to bottom emit.

17. The unit of claim 1 wherein the at least some of the modulators are configured for external modulation of the beams.

18. The unit of claim 1 wherein the at least some of the modulators are configured as detectors.